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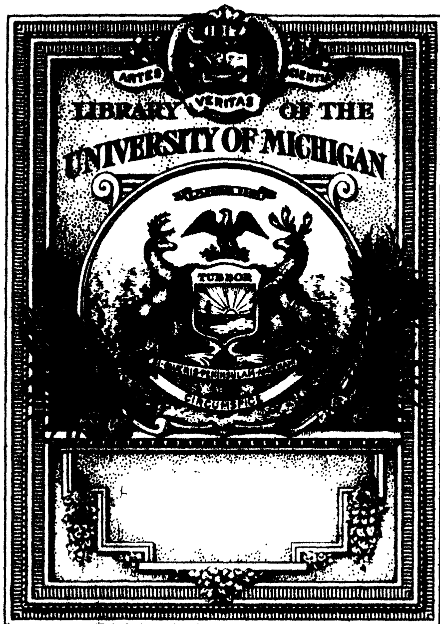

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June 15. YEAR, 1915

The AMERICAN DENTAL JOURNAL

BERNARD J. CIGRAND, M. S., D. D. S.
Editor — Publisher — Proprietor.

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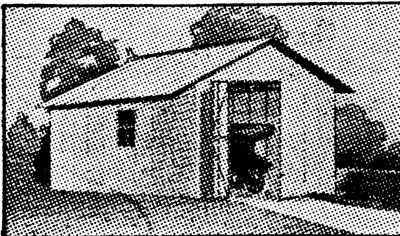

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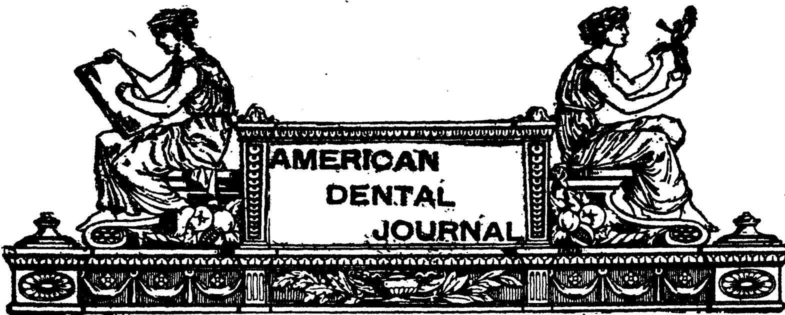


DR. BERNARD J. CIGRAND

EDITOR * * PUBLISHER * * PROPRIETOR

ENTERED AS SECOND-CLASS MATTER AT BATAVIA, ILL.

June 15 Editorial and Comment 1915

AURICULAR AND DENTAL RELATIONSHIP.

It pleased your editor to know that so many readers were interested in the last editorial, dealing with the importance of having the teeth of telephone and telegraph operators restored to normal conditions, since, it simultaneously renders better hearing powers, the element so essential in their particular life work.

In this editorial I wish to direct attention that we as a profession are too little taught concerning the anatomical and physiological relationship existing between the teeth and ears. Our dental curriculum at the dental colleges is entirely too constricted and too much time is given to vague and useless theories; give the students more of that which is actually practical and which will be of real value to them when it comes to ren-

dering aid to the suffering patrons. Now since the dental course is to be prolonged another year do not waste so much time on the anatomy and physiology of the lower extremeties and give them the jaws, head, neck, ears, eyes, heart, lungs, stomach, liver, kidneys and the organic man. Leave the legs for the day when we shall require five or more years at dental training at colleges; but for the present the upper extremities,

To retain his keen hearing powers, he must preserve normal oral conditions.

the living torso, as the artists would term it, together with the neck and head receive too little consideration. The average dental graduate could write on a small-sized postal card all he knows about the actual relationship between the teeth and ears, and then have room left to write his name and address as large as John Hancock. Give the students more about co-lateral

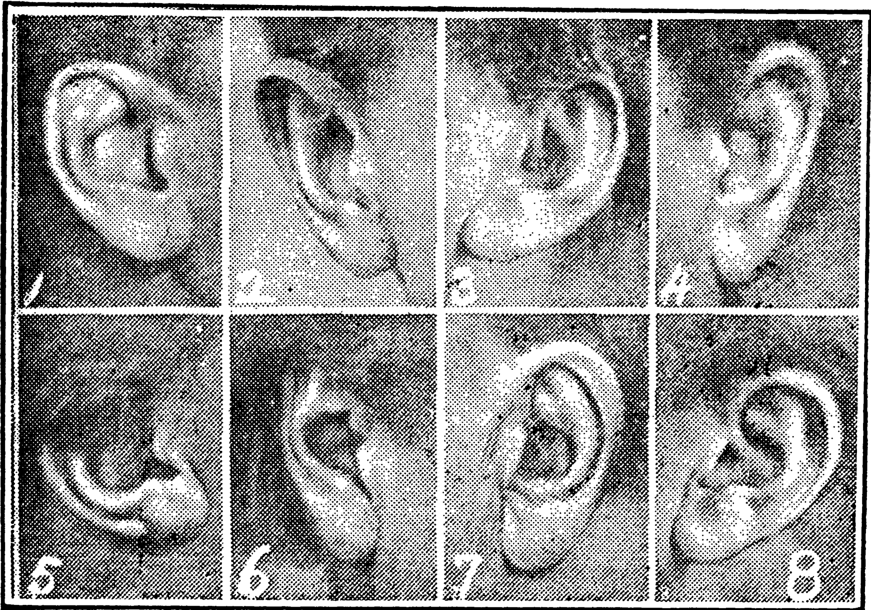
dentistry or that dentistry, oral, facial and regional which associates itself with kindred masticatory processes; this will lead them to parts quite distant from the mouth, yet one of the immediate regions effecting the teeth are the auditory regions. The teeth influence the hearing—the hearing influences the teeth, and this complex relationship is too little understood and too considerably underestimated.

Aural neuralgia, so common to children, and affecting adults too, can be often stopped by careful filling and refilling of teeth. A filling too close to the pulp, whether it be of cement, or of metal, may induce the most excruciating pains in the ear. Just because a tooth is apparently well filled, that does not certify that it is actually comfortable to its own pulp and the neural complexities of the face, eyes or ears. We dentists still do too much common every-day guess work—there must be more fundamental knowledge of parts which control, influence and exert neural changes—be they for comfort or distress.

In support of my contention read the following from Dr. Robert Barclay, a physician and aurist of repute, and you will agree, that we need more knowledge of the head, trunk and body and less about the size or condition of the legs and feet:

"It may, however, prove more advantageous to preface this by some remarks on the distribution and characteristics of the nerves by which teeth and ears are physiologically connected. As is well known, the trigeminus, or fifth cranial nerve, is pre-eminently and almost exclusively the base of this connection. With its dental distribution practitioners of dentistry are peculiarly familiar, and of it hourly reminded. Respecting its terminal filaments in the ear, however, I need only refer to the fact that the greater part of the auricle and external meatus are supplied by its auriculo-temporal branch. By neural anastomosis, as well as through the Gasserian ganglion, we find the dental nerves still further connected with the ear. The tensor tympani, tensor palati, and tympanic plexus, receive fibers from the otic ganglion; the tympanum is supplied as well with filaments from the carotid plexus of the sympathetic and from the great superficial petrosal (from the Vidian).

"The trigeminus consists of motor and sensory fibers; fibres having vaso-motor influence over certain regions, notably the ear; and so-called 'trophic fibers,' upon whose functional integrity largely depend nutrition and reactive power in the regions supplied by this nerve. Such being its character, is it at all astonishing that it should have proved the exemplar, *par excellence*, of nerves in which disorder or disease at one termi-



These varieties of ears are the leaders of the musical world.

nal branch produces disturbance at another? And, the neural connection between the teeth and ears being so definite and so intimate, what is the rationale of presuming these organs exempt from that which obtains for the others similarly connected by this nerve! For, that this takes place among the others, we have abundant testimony from many eminent observers. For instance, 'reflex neuralgia from the pharynx probably

DR. WOOD HUTCHINSON

through the palatine ganglion to the superior maxillary nerve,' characterized a case reported by Dr. J. Orne Green, of Boston, Mass.; where the contact of a Eustachian catheter with the mucous membrane, near the mouth of the Eustachian tube, was, at each repetition, attended with severe pain in the teeth of the upper jaw of the corresponding side. 'Spasm of the muscles of mastication from irritation reflected from auriculo-temporal nerves.'"

"Dr. Samuel Sexton, of New York, in speaking of 'the special sense-organs,—the ears, nose, and eye,' states that 'under certain conditions of the system' 'these organs become strikingly susceptible to disturbing influences, and, so far as his own experience goes, from no cause more frequently than from dental irritation.' Again he says that of fifteen hundred aural cases, whose records he has received, 'perhaps one-third owe their origin or continuance, in a greater or less degree, to to diseases of the teeth.'"

In addition to this Dr. Barclay states:—

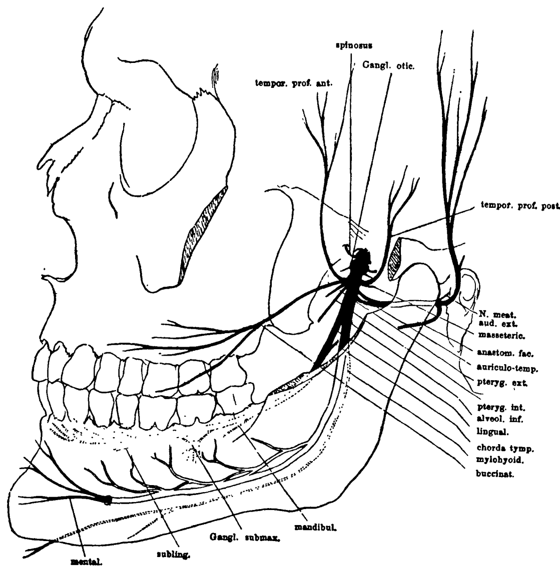
"With a report of twenty cases of aural disease where dental irritation was obviously either a predisposing, exciting, or sustaining factor, the writer cited, among the principal conditions giving rise to oral irritation, and, indirectly, to ear-disease, cutting, crowding, shedding, and caries of the teeth, gingivitis, hyperostosis, pyorrhea alveolaris, periostitis (pericementitis), tartar, hypertrophy of the gums, catarrhal inflammation of the buccal mucous membrane, vulcanized red-rubber and ill-fitting plates and 'dentures,' numerous amalgam fillings, and unskilled dentistry."

The same authority describing one of his aural patients says:—

"Treatment directed toward his aural condition availed little until the patient adopted the suggestion to have all dental irritation removed. Aural treatment was then suspended, and he attended faithfully upon his dentist until all teeth with dead or exposed pulps, and the left superior third molar with its supernumerary tooth, had been extracted, cavities filled, tartar removed,—in short, until all dental irritation had been

quieted. The dental treatment has been attended by the happiest results, the patient's symptoms having ameliorated and his hearing improved promptly and steadily thereafter."

When the doctors who have in charge the diseases of the ear, make such a confession regarding the importance of the dependence of ear on teeth and teeth on ear, does it not behoove us to research along these collateral lines? The following is so absolutely good that I am impelled to insert it since



Dr. Barclay, the aurist, has been courageous enough to tell the truth:—

"The irritation from pulpless teeth is one of the most insidious and prolific factors in aural disturbance. One case, recently relieved by extraction of a tender right superior second molar, proved to be due to a small alveolar abscess of the internal rool. The tooth had a continuous crown and distal amalgam filling, and, on breaking open these teeth the internal root, the root-canal was found to contain a piece of gold wire, which had doubtless been introduced therein under the

delusion that it might prove a suitable filling, the crown cavity finally being closed with amalgam.

"Whether or not, from the standpoint of conservative dentistry, it be advisable to introduce gold wire into a root-canal and then hermetically seal it; or, when one has broken a broach or other instrument in the root canal to leave it, 'saturate with oil of cloves' or 'other essential oil,' 'fill with chloropercha' and 'keep it dark,' is a question upon which the writer would not presume to express an opinion; but he thinks that the continued presence of a solid, metallic foreign body in the root-canal of a tooth, hermetically sealed, even if the foreign body be not pushed through the apical foramen, is, as studied from the lessons of practical aural surgery, a procedure of doubtful expediency. And it would not seem infrequent for the metal to be forced actually through the apical foramen, when at a convention of dentists recently it seemed to an experienced and observing member 'that every brother had one of those specimens, with the point projecting from one-sixteenth to one-quarter inch, in his pocket.'

"Insidious dental irritation reflected to another branch of the trigeminus, if its terminal distribution seem anatomically remote, is apt to escape the attention of both dentist and medical practitioner. In such case the patient, with, for example, neuralgia of the supra-orbital nerve, or with disturbance on the auriculo-temporal nerve, as with earache, would hardly think of seeking aid therefrom of any but a physician. In his ignorance of the anatomy, physiology, and pathology of the trigeminus nerve and its communications, he would never suspect the origin, the source of his trouble, and go to his dentist."

He can help the dentist and the dentist can help him—and in this interchange of professional service, the patron will not only receive a higher and better service but relief will come more speedy and the bill should be all the less.

For every minute that the dental student spends dissecting the big toe let him spend a day with the ear; and for every minute he devotes to the thumb, let him devote a week to the eye and fifth pair of nerves, that branch of neural wiring which

makes a central telephone ganglia look like an old-fashioned silver three-cent piece.

Give us more real operative and prosthetic dentistry and less of such theories and subjects which are "fifty-second cousins" of actual dental and oral art and science.

COMMENT

HAD we the space I would gladly insert extracts from the letters appreciating the editorial in the May issue on "The Teeth and Ear." Shall be pleased to publish your experience along lines suggested in the editorial in this issue.

* * *

WE are indebted to the *Philadelphia Ledger*, for the engraving of Dr. Wood Hutchinson. Read his article and know that this Journal will give you another of his splendid articles.

* * *

THE Champlain Building, Chicago, is being torn down, and the Chicago Dental Mfg. Co. has moved to the Marshall Field Annex, where their neat quarters will be appreciated. If you write they will send you free of cost, samples of their new Thinest Finishing Strips.

* * *

IN our next issue I will write of the splendid results to be had with the Illuminator for the Mouth. The ideal "Oral Lamp" as it should be called is manufactured by the Ideal Electric Supply Co., 299 Broadway, New York, and it will pay you to write and ask for descriptive circulars.

* * *

IN the near future we will have an illustrated article by Dr. Hart J. Goslee. He will tell us of the latest and best relative to the use of the Goslee tooth, which is gradually finding a way to the hearts of dentists and mouths of patrons.

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ORIGINAL CONTRIBUTIONS

GOOD TEETH MEAN LONG LIFE

BY WOODS HUTCHINSON, M. D.

[This famed physician has agreed to tell a few facts which may be welcome news to some dentists but startling to others. By an arrangements with A. Merrit, THE AMERICAN DENTAL JOURNAL gets these articles, and you will profit by reading them.—EDITOR.]

Few things go on to their logical conclusions. Very few prophesies ever come true, and these few by the simple process of predicting a dozen assorted kinds of luck, both good and bad, and then claiming whatever happens as a fulfilment of the "stab" that came nearest to it.

This is particularly true of prophecies concerning the future comfort and destiny of humanity, ranging from "ends of the world" without number indefinitely postponed, to the "some bad end" so confidently prophesied for the small rebel of the neighborhood or Sunday school, who fulfills it by becoming a millionaire, a missionary or a Congressman.

At one time we were quite sure that we should gradually be drawn nearer and nearer to the sun, until our elements should be consumed with fervent heat. At another and somewhat soberer period we were equally confident that, from the steady dissipation of energy and heat already under way, our globe would gradually become colder and colder, until we all froze to death. Barely a decade ago some of our most beetle-browed scientists were in a state of melancholy certainty that we were wasting our nitrogen, washing it down our rivers and out to sea at such a rate that the raw material of our bread and our beef would soon be gone and we should all perish by nitrogen starvation. Hitherto, however, just as the relentless jaws of our logical and inevitable conclusion were to close upon us,

some *deus ex machina*, some Perseus or St. George, has suddenly appeared to rescue us from our self-constructed and mathematically proven dragon.

The marvelous vistas opened up by the discovery of radium gave the sun a new hundred-million-year lease of life, and electric methods of getting nitrogen out of the air indefinitely postponed our wheat famine.

Just at present the dread which, in the language of the street is "biting us" is the general decay of human vigor and vitality under the stresses and changed conditions of civilization. While perhaps we are most seriously concerned with alleged grave and fundamental degenerations and crumblings in our internal organs, or "works," so to speak, such as our hearts, arteries nervous system, liver and kidneys, yet we give many an anxious thought to the terrible and increasing disrepair of our overhead and surface equipment, such as our thatch and our grinders.

And, upon the face of it at least, there is no denying that we have real and abundant cause for uneasiness as to the future of these important places on our "map," and as to how it is going to be possible, in Oriental phrase, to *save our faces* much longer. Moreover, although some of this uneasiness may perhaps prove to be groundless, we do well to be concerned, and it is abundantly worth our time to worry a good deal over the state of our incisors, canines and bicuspids. Because not only are they exceedingly old and fundamental parts of our structure and of vital importance to our health and vigor, to say nothing of our looks, but there is probably no part of the human body at present where greater improvement can be wrought, more important gain in both comfort and health won and larger returns on the investment reaped than our teeth and gums.

Whatever be our views as to their natural tendency to decay and disturbance, there is nothing in our body over which we have more direct control, which is more nearly what we choose to make it in point of vigor, purity and wholesomeness than our mouths and teeth. It is literally and in every sense true that in this 20th century a man is known by the teeth that

he keeps. But what can we do to arrest this terrible decline and fallout of our ivories, which we are sure is in full career and which threatens us with reversion to first principles, in the shape of a return to the toothless gums of infancy, with a corresponding diet of "spoon victuals."

Can a man by taking thought add a decade to the life of his teeth? In the first place, we are sure that our teeth are going to the bad at such a tremendous rate, tobogganing down the decline toward the "Full set, $7.50" bottomless, or, rather toothless pit? Up goes instantly a roar of indignant protest. "Don't I know it ? Can't I feel it in my mouth, and it going on every time I grin at myself in the glass?" Did our grandfathers and great-grandfathers ever have such mouthfuls of snags and decay? Not they? "They kept every tooth in their heads until they were 90 years old, and often had a second crop at 70!" The evidence for the swiftly progressive decay of our teeth is as convincing and incontestable as that for the brilliany of the country lawyer whose position and pre-eminence in his profession was being warmly attested by a friend, who, after citing one proof after another, triumphantly wound up with:

"Why, of course, he's the smartest man in the county. He admits it himself!"

When we come, however, to look into the evidence for this rapid and uncheckable crumbling away of our grinders we find the situation not half as bad as is usually supposed. The supposed inferior condition of our modern teeth is usnally based upon several kinds of evidence. First, the superior vigor and beauty of the teeth of animals and savages; second, the sounder and more perfect condition of the teeth in ancient or primative skulls dug up from various sources. It may be said in passing that one great fallacy underlies all three of these groups of evidence.

"The heart knoweth its own bitterness," and the mouth its own toothaches; and while each one of us is vividly aware and has the keenest of recollections of our own gumboils and "jumping" pulps, we naturally have never been animals, nor moundbuilders, nor Egyptians of the days of the Pharaohs, and

know nothing about the griefs that they endured, or the hundreds of thousands of cases that perished in childhood and young adult life from bad teeth in famine times, and the infections that spread from them.

The average condition of teeth in wild animals is probably somewhat better than in those domesticated or kept in captivity, for the simple reason that their teeth are their life, and the moment that their biting efficiency falls more than 10 or 15 per cent below its normal level they go down into a living tomb, which is always lying in wait for them just around the corner. When a wolf or a lion has lost or loosened enough teeth so that he can no longer hold his own in a fight, or hang on to a plunging deer or an antelope or a buffalo after he has seized it, he is not long for this world. And the same certain and inescapable penalty falls upon the peaceable eaters of grass and roots and nuts whenever their grinders and croppers and gnawers begin to lose their edge and their grinding power. The average wild animal carries a pretty good and well-sharpened kit of teeth, for the stern and sufficient reason adduced by the hunter why a fox climbed a tree, "because he had to."

Much the same state of affairs exists when we come to an actual showdown on the much-rhapsodized-over "gleaming ivories" and superb rows of pearly millstones of savages. Probably, as a matter of fact, the average adult, as we find him, has a stronger and handsomer set of teeth than the average civilized man. Partly because most savages, particularly those belonging to the negroid, American Indian and lower Mongolian races, are of what the anthropologists term the *Macrodont*, or large-toothed type, while the civilized races fall for the most part in the *Microdont*, or small-toothed group; that is, savages have larger, stronger and more heavily enameled teeth, and longer, heavier jaws, in proportion to the rest of the skull, to correspond, so they make a more imposing tooth display. But the chief reason for the fine condition and appearance of savage teeth is the one already explained in the case of the animals—and that is the necessity of possessing strong and efficient sets of teeth, in order to survive upon a diet of roots,

barks, snakes, old carrion, walrus hide, dog harness, sandal soles and delicacies of that description, which have to be negotiated in times of famine, which is under savage economic conditions, at least every other year.

The moment these strong, huge-looking, savage teeth are submitted to an endurance test, a large share of their superiority over civilized grinders promptly disappears. For it is the unanimous testimony of army doctors, agency physicians, medical missionaries and all who have established hospitals or dispensaries among the savage tribes, where dental treatment could be given, that there is an abundance of every sort of caries, root abscesses, ulcerations and loose teeth to be found among the finest and healthiest savages, and that after the age of 30 or 35 years their huge ivory crushers erode away and break down even more rapidly than those of civilized races.

The evidence for the decline of modern teeth which is furnished by an examination of ancient or prehistoric skulls dug up or uncovered in chance excavations is at first sight rather discouraging. The great majority of those "Alas, poor Yoricks" are remarkably well stocked with teeth in a very fair state of repair. The percentage of missing or defective teeth is, on the whole, surprisingly small, ranging from 15 or 20 per cent to as low as 2 per cent. And dental experts who have examined large collections of these skulls declare that hollow teeth or signs of dental abscess are less than half as common as they would be in a similar body of adults in a dental clinic today. But the first thing that strikes us about these ancient skulls is that the overwhelming majority of them are of men, and of men in the prime of young adult life at that—very few women's skulls, and virtually no children's skulls at all. This used to be explained on the ground that they were from soldiers killed in some great battle, even though no record or legend had survived of a battle at that spot. But so constant is this overwhelming preponderance of young male skulls in all large collections dug up in the open earth that we are beginning to strongly suspect that we are dealing with a survival of only the strongest and solidest skulls, which would naturally be those

of young men. And as the foundation and solidest part of the skull is its jaws, and the jaws depend entirely upon the teeth and waste away when the teeth are lost, the skull which would have the best chance of surviving would be, first of all, the young male adult; second, the young male adult skull which had the best and most perfect set of teeth.

At all events we are entitled to the consolation of knowing that even in this probably highly selected class of skulls, the overwhelming majority of which in any case are adult males in the prime of life, those who have survived the perils of childhood and adolescence and have not yet been decayed by the degeneration of advancing years—even among this group of "champion" skulls there are to be found every type of dental defect, of abscess, of pulp abscess, of indications showing that the teeth were lost by pyhorrhoea, of malpositions and irregularities of the teeth, and of failures of the jaws to grip and grind firmly and evenly one upon the other—technically known as malocclusion—which are known to civilized dentistry. So the difference between ancient and modern teeth shipwreck at best is only one of degree, not of kind.

"But surely," says some one, "whatever historic conditions may have been, there could be no question that human teeth have been breaking down and decaying at a tremendous rate within the last 50 years." Indeed, that our modern teeth are undergoing such a "galloping consumption" is one of the commonest convictions, not merely of the Man in the Street, but also of a considerable proportion of dentists and doctors. But, like a good many other convictions, the amount of evidence is in almost inverse ratio to the confidence of the conviction. As a matter of fact, we have not sufficient data upon which to base a positive statement, either the one way or the other. We are, not unnaturally, shocked and alarmed to discover that from 80 to 90 per cent of our school children examined show one or more carious teeth, and that from 30 to 50 per cent of our recruits are rejected.

But when we lament that things were never half so bad as this in our father's or our grandfather's days we are going be-

yond our evidence, because no such examinations were ever made then. The teeth of school children only began to be systematically examined about 15 or 20 years ago, and until about 25 or 30 years ago no recruiting surgeon ever looked at a volunteer's teeth, except just to see that he had enough front teeth to tear open his old-fashioned paper cartridge with. Incidentally, it may be remarked that the great importance now attached to the condition of the teeth in recruits accounts for nine-tenths of the difference between the large number of rejections today and the smaller number 50 years ago.

[Next article will deal with "Dangers that Lurk in the Mouth."—EDITOR.]

A DENTAL CRITIQUE, WITH SOME SUGGESTIONS*

BY DR. B. J. CIGRAND, BATAVIA, ILL.

[This article appeared in the 1915 issue of *The Dental Review*. The editor, Dr. C. N Johnson, had these engravings made from my charts, and I deeply appreciate the kindness of *The Review*.—EDITOR.]

To be invited as the guest of the dentists of the north-central part of Illinois, including four of our most prosperous counties of this state, is indeed a compliment one may well be proud of; this is the third time that you have shown me this consideration, and the beautiful city of Rockford has been the place of these meetings. Your president, as well as the chairman of the programme committee, said: "We are looking for a practical paper, and we have selected you to fill the want." That sounds friendly, indeed, and it will be my earnest effort to fractionally comply with your request, and I shall give the paper in the form of a critique, which need not necessarily be condemning in spirit, and bring to your attention a score of items which have a practical bearing on our personal and our professional success, and while there are elements to which I refer which may seem severely dealt with, you will agree with me in that he who praises a wrong and permits it to repeat itself is far more dangerous to a community than he who in a kindly

*Read at Winnebago or Rockford District Dental Society, March 27, 1915.

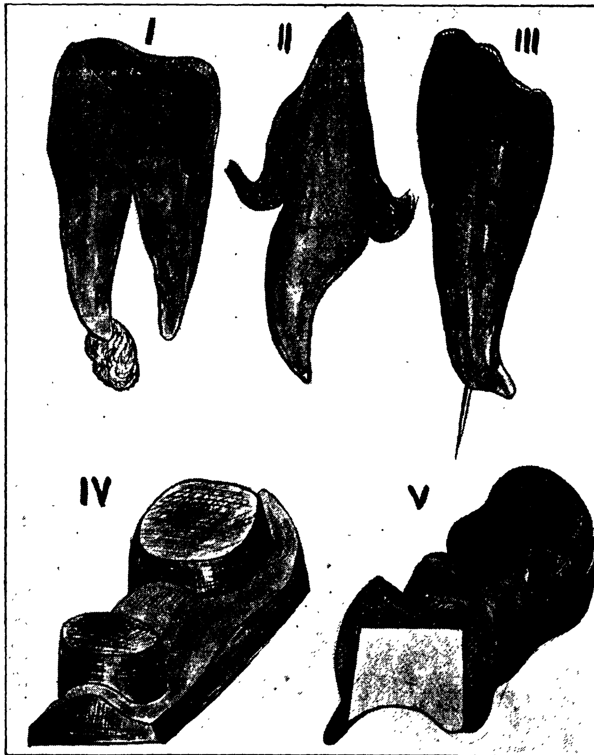
way hopes to correct the errors and firmly admonishes against practices of deteriorating influences which lead to eventual failure. And, kind friends, this will be the thought I hold most high: Let us serve in the interest of higher professional standards, so humanity and we servants may be made happier.

There is a need now, more than ever, that we do not delegate a few, or that we expect only those who are so inclined, to formulate and establish the progress of tomorrow. No, a profession like ours is like a republic, all must serve, and in this community and united service there is real and not false progress. To retain our dignity we must arouse anew the young and old to study and to personally, jealously, watch every form of practice advocated. It is not sufficient to be able to make a perfect laboratory crown or bridge; there must be a comprehension of the underlying strength or the force of resistance which the oral fabric possesses, hence a case may appear to be, so far as construction is concerned, a most faultless product, and yet when placed in the mouth it fails to render that equation which leads to success. More and more must we concern ourselves with the sub-membranous or hidden structure of the mouth. Every day conservative prosthetic operators are becoming aware that the failures of today are due to disregard of a study and a comprehension of the bony, the alveolar and the tissue elements which contribute to the ultimate answer of our knowledge of prosthesis.

It has been a rule with me, both in practice and in instructional work, to recommend that a bridge requires as many anchor-roots or supporting teeth as there are substitutes missing, and to yoke, hang, couple or assemble more substitutes than there are bridge supports, will only spell failure in a very short time. And where the roots of the teeth are inclined to be infirm in their socket attachments, I would say, for every substitute required have two roots or teeth; we must have better foundations, for regardless of how carefully you have constructed the metalic frames or how painstakingly you have been in the soldering or the baking, or how patient you have been in its polishing, all this artistic work and this employment of time

will only aggravate you more when this same case comes back loose and possibly out of harmony with the remaining parts of the mouth.

It is also possible that you have charged high for your work, and the case growing into a delapidated failure, your once trusting patient visits some other dentist, and your ability



as a judge of logical bridge construction naturally becomes a topic of discussion. Of course, the ethical dentist to whom your patient has gone cheerfully defends you as one whose work generally gives satisfaction, and in this particular case you, like other human beings, have miscalculated the work and lost the

patient. Regardless of how well or friendly he may vindicate you, it is dentistry and not personality which is in the scales to be weighed.

The public may not seem to understand our art or our science; they may not appear to be informed of the anatomy or the pathology of the case; and they may not know much about the strain, stress or philosophy, but believe me, fellow practitioners, the public does comprehend, and to a very fine degree, when the product or result of our work has been a failure. And then excuses, arguments and even explanations will avail for little, for with the bridge in the vest pocket or in the handbag, all your delicate collegiate and deft analysis is superficial. The patient may have been abusive to the bridge and eaten substances which were too hard, or they may have violated your advice as to the care of this mechanism, but unless the substitute has given a reasonable service, and has met with reasonable success, you, as the practitioner, will be obliged to make reasonable allowances, do some of the work over and be the honest practitioner, or you will lose the patron, and a fellow practitioner will begin anew where you in failure left off.

Now all this waste of time, on your part, and expenditure of money on their part, can be avoided if you will never, under any circumstances, attempt an expensive piece of work unless you are reasonably certain the substructure, the underlying osseous tissues and the membranous appearance is such as will permit of an outlay of considerable or even ordinary amount. We are all obliged to come to this conclusion, that we have been doing too much temporary work, too much of what we have claimed would be permanent and enduring has actually been tentative. Let us be honest and we will confess we have been nailing our faith to too many false gods, whose pedestals are neither of art or science, but a conglamoration of would-be logic.

Now we will never make the progress which the past generation has bequeathed unless we correct our mistakes, and in candor accept philosophy which is not only proven in the laboratory, but which must also bear the acid test, so-called, in the mouth. A table clinic may seem just right; there are

visible all the elements which lead to triumph, but the actual and final laboratory after all, is the mouth. And, when a case has held up and fulfilled its calculation in the oral cavity, then and only then, can you pronounce the laboratory test perfect.

We are, just at present, drifting away, I believe, from the broad ambition of really serving in an unselfish way the great human family about us. When I read of the men who laid the foundation of our calling, and contemplate how eagerly they denied themselves the pleasures of the day in order that they might render to their suffering kin a service in dentistry, and when I review how earnestly these pioneers pursued their books and deciphered the equations of nature, and I can imagine them in their spiritual form today, admonishing us to trust little, except it be a part of experimental knowledge, I declare by all that is sacred that with this one view to my left I look with half misgiving upon the right side, where, today, in the present hour, we are chasing the dollar, forsaking the path of study, and groping about for methods, systems, practices and manners which may bring us dollars.

We may well, in our quiet, sober moments, with propriety offer up a professional prayer to lead us back to the books, back to laboratory, back to the test tube, and back to the dictionary of art, and the encyclopedia of science. Here, and only here, will be found our true guides, and as we delve into the mysteries made fascinating by the giant minds who have given us the printed page, and those who have bequeathed the perfect pictures and solved for us so many problems, we will again get back to the path of human service and set aside that ambition for easy, comfortable and selfish service which really has, as its main spring, that policy of get-rich-quick.

No more nefarious and destructive idea can enter the mind of either the young practitioner or the elderly dental surgeon, than that he brushes aside his dental journals, the new dental volumes, or the magazines of collateral sciences. I know of nothing which will undermine him quicker, and do it more noiselessly, and apparently painlessly, than that the degrading hope of getting rich occupies his mind. This ambition seems

to gnaw a hole through his conscience and permits his home-spun goodness to leak out and disappear.

My advice would be, back to the books, and back to the microscope. These are the instruments which will be the pillars with which we will uphold the dignity of our profession, and make glorious the career of either the dead or now aged sanctified devotees who gave earnest, honest dental service.

The recent idea which is prevailing that you must make an appearance, your office must be just so, elaborate in decorations, comfortable in seats, chairs and lounges, with mirrors glaring at you from every angle, may appeal to some, but believe me, that your patients will soon forget your quaint, pretty and lavish reception room, when the crown comes off, or the entire dental restoration which you have so quickly affected, have failed. In conjunction with this same false idea that you must make an appearance, the glib salesmen, come and tell you that if you will buy a complete office outfit, modernize yourself, you will appear efficient; of course, I could not help employing the word "efficient," fore this thread-bare term must be used to be up to and in line with the salesmen's talk.

Now, no one in the world desires more than I do that you get the best, the latest and the most efficient, but, please, do not be misled, and think that appearances will bring you much, or hold you any value for any length of time, unless you can with your brain and hand deliver the real results, for it is results, and satisfactory results, which the patrons desire. They care nothing for your office fixtures, nor your reception room comforts, much less your lodge connections or church affiliations. All they wish is that you perform serviceable, logical dental operations in their mouths.

They care little whether your office is in the First National Bank Building, they do not consider whether you are on the first floor, basement, or suite on the tenth floor. What they are really after, is a dentist who understands the practice of dentistry, and if he has his office on a side street or out of town, that will not materially affect the decision if they are seeking products which will give them service and comfort.

Hence, read your journals, study your books, visit your societies, experiment in your laboratories, and make the microscope, and the test tube a part of these companionable things, and you will, in the eveningtime of your professional career, have satisfied yourself and been a blessing to mankind.

To follow out some of these suggestions will possibly tend to disturb your financial progress for some months, or even for years, but you will finally and maybe soon, revamp your minature treasury, and you will have acquired a general practice which will rédound to your good name, and bring you money.

To be able to so conduct your practice as will bring to you a mental satisfaction of having done that which you positively know is right, that kind of policy is to a profession, what statesmanship is to a country.

When you are about to determine whether a root may carry a porcelain crown and you discern by the eyes of the exploring instrument that its sides are devoured by pathogenic life, and that the alveolar process has been eaten away by one of a hundred different things, and you well know that the bony surroundings are gone, and that its position in the mouth is daily becoming more and more a foreign body,—why hesitate to tell the patient that it would be unwise to attempt to save the root, and that a crown is contra-indicated. Figures I and II. They will naturally say a few things, and possibly ask a few questions. Well, be calm—be a cool-headed listener, and answer the queries in a soft, convincing and professional way. The time you give your patients in this courteous and instructional manner is never lost; you are really making good money, being a gentleman, and replying in a compensating fashion. The patron will soon learn without your telling it in so many words, that you know your business, and should the patient seem dissatisfied with your decision and remark,—"Well, last Thursday I called and consulted Dr. Blank, and he advised that he could save the root and put on the crown, but his price was a trifle too high, and so I came to you, believing you might be more reasonable." Here is the stream most dentists fall into, when crossing; here

is where they lose their heads, and fall down and drown. My advice would be to keep calm, and add words like these: "Dr. Blank was certainly anxious to save the root and I am pleased to learn that his fee was so high, but really, I would rather lose your patronage now, and have you come to me after you have found my present judgment correct." This impresses them with the firm business stand which you have taken, and they will generally climax the talk with—"Well, Doctor, what would you suggest should be done, and how would you proceed to fix up my case?"

You have crossed the stream by going over the bridge, and your patient now respects you for being a worthy representative of your calling. This same idea holds true in thousands of other situations of a similar character. It may be applied to every form of filling, and is alike in all our relations between patron and ethical dentist.

People in the future will be obliged to pay more for dental services for the dentist will also be obliged to have better and more fundamental knowledge about his work; there is going to be less guess work; less of the Southern expression—"I reckon." We are obliged to get to the basis of dental practice and this will mean that we know quite definitely what will and what will not lead to success.

The latter remark brings me to say that the Roentgen Ray in the days to come will be our greatest aid in determining whether a root or a tooth or a bridge is in harmony with the remainder of the oral economy. This may mean that your patient must of necessity journey to a nearby dental or medical studio, where men of reliable scientific education and dental training are employed, either by the state, the dental societies or by the Federal Government.

Whatever may be the paying or controlling factor in such a serviceable Roentgen Laboratory, the fact is, this superficial method which we now rely upon, must soon give way to the scientific and the reliable. If your patient is not sent to such a place for determining difficult dental equations, it will be your duty to become familiar with this problem by taking instruc-

tions in this field of work, and installing the photographic lenses and developmental apparatus, so you can render that service as shall be in keeping with medical science and dental art.

Of course there are cases which you can, with propriety send to the so-called specialist, but I surely would advise against sending a single case of any kind out of my office, unless I felt that the patron sent to the expert would receive honest, fair and recommendable service. These experts in no small number of cases charge fabulous prices, and render operative services which can be called charlatanic, because they take the patron's money, knowing full well that the so called permanent cure which they are promising is a myth.

Where you go, you hear about the unprofessional manner in which so-called experts are treating, curing and effecting life-long health in pyorrhea cases. I have in mind a case where a conscientious dentist believing he would serve the patient better, recommended her to visit a pyorrhea expert in a big city, and after the patient paid several hundred dollars was obliged to go to an expert ex-odontist, and have the diseased teeth extracted. Now what opinion would this patron entertain of her family dentist? What opinion would she have of the so-called expert? Let me say to you, that she would quite likely think that her old family dentist got a handsome rake-off or rebate, and the entire transaction in he mind would be registered as a clear case of graft, and for lack of a better term, let us candidly call it G-R-A-F-T, with a capital "G."

If you cannot give your patients better advice than to arrange for them to lose their money and their teeth, I would advise that you treat the teeth yourself as best you can, and if no definite improvement registers itself, extract the distressing roots or teeth, and let "all-knowing nature" affect the cure. We are trying to save too many loose and diseased teeth, which for the wellfare of the patient, as well as the standing of our profession, would be better to rid the mouth of the germ-breeding, life-destroying circumstances, which we, in our ignorance, are falsely hoping to restore.

That mouth which is filled with pus-belching pyorrhea

pockets and which has here and there individual crowns, the roots of which are wearing upon the apex, cysts, ulcerations and open channels of flowing waste tissue, is a menace to that person's health, and the quicker some conscientous dentist gets gets the case, and restores the mouth, either by proper prosthetic and medicinal dentistry or extracts such distressing teeth, the better will it be for not only that patient but the entire community.

For years, I too, was of the army of dentists, who hoped and attempted to save all roots, all teeth where there was still the slightest apparent hope for salvation. Study and observation has since taught me that where a root or tooth is no longer encased by alveolar structure, and where the surrounding tissues indicate a chronic wasting, I propose extracting. I free the patient from the constant worry of dental attention and the relief of this, in itself, is a tonic; besides I have put out the fires of inflamation, and permitted nature to act as the supreme physician, which she invariably is notwithstanding our claim of superiority.

In such cases where the teeth indicate a pyorrhea tendency, I seldom resort to placing large bridges for in this case the teeth and the roots will be wabbly, changeable in possition and in this shifting and lack of stability, the cement can never hold the attachment and immediate failure is certain to result. In these cases a partial removal bridge where the force of mastication rests on the gums rather than on the weak teeth or crowned roots, is the logical and wise way to serve the patron. Figure IV.

We must make fewer bridges and have these placed on foundations which are solid and which are surrounded by healthy tissue, both the osseous and the vascular, and then with this newer and safer practice we will restore the public confidence which in present floundering, failing methods only degrades our professional standing. Figure V.

[TO BE CONTINUED]

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LEAD IN THE TREATMENT OF PERFORATED ROOTS

BY DR. J. H. SPAULDING, PARIS, FRANCE

In presenting for your consideration my experience in the use of lead in the treatment of perforations and certain cases of devitalized teeth, I feel that I am communicating a method of treatment which, though not new, is at least not commonly practised, but yet which, in my estimation, is of the highest value, had a very large and deep cavity and the cementum was invaded by decay very low down belnw the margin of the alveolus in the centre between the roots, and a thorough removal of the decayed portion made an opening about four millimetres in diameter, which was quite sensitive and bleeding. I tried various methods of treatment in this case, such as putting gutta percha directly upon the opening; fitting a piece of gold and holding it in place with cement; a sheet of asbestos, etc., etc.; but none of these were comfortable, or even tolerable. I did not want to extract the tooth and I finally thought of the comparative ease with which lead bullets became encysted and tolerated in the soft tissues, and I hammered out a shot making a sheet of rather thick, yet pliable lead and burnished this over my perforation. This was held firmly in place with an instrument while cement was placed upon it and within the cavity and allowed to harden.

Another case treated by me in 1908, was a lateral incisor which had caused constantly recurring suffering during more than two years, notwithstanding many ineffectual attempts at treatment by ordinary methods. I opened the canal as usual and fitted a lead point, which I thought was surely long enough to reach the end of the canal, and as there was some sensitiveness and roughness to the use of the Donaldson hook in getting the first measurements of the length of the root, I feared even to have gone beyond the end. As there was little or no amelioration this radiograph was taken which showed me the exact conditions: A careful calculation of measurement was made and the canal opened fearlessly to the end. A new lead point

was fitted, the abscess treated as elsewhere described, and the lead point driven home, since which time there has been no further trouble.

All traumatic lesions of this character are treated in the same manner with either lead points driven into the perforations or sheet lead burnished over them. I may remark here that in all the thirty-six years in which I have used lead for enlarged foramina and perforations I have never bad but two cases where it was necessary to extract the tooth because of failure, that is, so far as I have any subsequent knowledge of the cases treated and the end of the root showed absorption in both. What physiological phenomena take place in these cases to determine and maintain a healthy condition it is exceedingly difficult to say.

ETHICS AND JURISPRUDENCE BY DR. E. NOYES

BOOK REVIEW. DR. B. J. C.

A new book has just been issued by one well-known to the profession. For earnest, honest and conscientious dental service Dr. Edmond Noyes has long held the esteem of his patrons and his professional inspectors. But now, this same genial operator has offered to us something along educational and professional lines; it may seem that this is a new phase of his active career, but he has for many years edited the proceedings of the Illinois State Dental Society, and this is a literary task he has performed in a praiseworthy manner. Well, his new book on Ethics and Jurisprudence, is arranged in a form which will be of value to all who wish more information on this practical subject. All practitioners, need more light on both these items of a professional man's career, and the work is worthy of a place in all libraries.

Dr. Noyes, has for many years been the professor of these subjects at the School of Dentistry, Northwestern University, and he has given us a splendid summary of valuable matter and fortified his position on technical legal grounds by quoting high and standard authorities. He has not neglected to use

quotation marks when using the ideas of others and this form of literary consideration merits special comment, since too few authors tell us the whence of the idea.

The book has 252 pages and the printing, paper and binding are of high grade.

Dr. Noyes has quoted extensively from William E. Mikell, Professor of Law, University of Pennsylvania, and this well-known authority deserves to be mentioned.

We have not as yet a satisfactory definition of dentistry. This is well illustrated in his chapter XV of Part III, and Dr. Noyes quotes from Prof. Mikell, as follows:

"Perhaps a legal definition of Dentistry has not yet been formulated. The statutes of some states imply that dentistry is a branch of medicine or surgery. Thus the statute of Michigan regulating the practice of medicine or surgery provides: 'from practicing medicine or surgery (*except dentistry*).' The definitions in some statutes of 'practice of medicine' are broad enough to include the practice of dentistry and vice versa. Thus the act of 1882 of Mississippi, section 20, provides that the words 'practice of medicine' shall mean to suggest, recommend, prescribe or direct for the use of any person, any drug, medicine, appliance, or other agency, whether material or not material, for the cure, relief, or palliation of any ailment or disease of the mind or body, or for the cure or relief of any wound, fracture or other bodily injury, or any deformity.'" It is plain that this definition is broad enough to cover the whole field of dentistry.

"The Mississippi Court of Errors and Appeals has held that dentistry is a department of the medical art. In Whitcomb v. Reid, the question before the court was whether a dentist's instruments were exempt from execution under a statute exempting the 'tools of a mechanic necessary for carrying on his trade." The Court said: 'We do not think that this provision can be extended to the description of instruments in question. A dentist cannot be properly denominated a mechanic.' It is true that the practice of his art requires the use of instruments for manual operation, and that much of it con-

sists in manual operation; but it also involves a knowledge of the physiology of the teeth, which cannot be acquired but by a proper course of study; and this is taught by learned treatises on the subject, and as a distinct, though limited, department of the medical art in institutions established for the purpose. It requires both science and skill and if such persons could be included in the denomination of mechanics because their pursuit required the use of mechanical instruments and skill in manual operation, the same reason would include general surgeons under the same denomination, because the practice of their profession depends, in a great degree, upon similar instruments and operative skill.

"Nor could such a pursuit properly be said to be a 'trade.' That term is defined to denote the 'business or occupation' which a person has learned, and which he carries on for procuring subsistence, or for profit—particularly a mechanical employment, distinguished from the liberal arts and learned professions and from agriculture.' (Webster's Dictionary.) It is manifest that a pursuit requiring a correct knowledge of the anatomy and physiology of a part of the human body as well as mechanical skill in the use of the necessary instruments, could not be properly denominated as a 'trade.'"

"There are a few decisions that dentistry is not a branch or department of medicine or surgery. In State v. Fisher, (Missouri) this conclusion is reached by a bare majority of four judges to three; * * * on the question whether the relator, a dental surgeon, was exempt from jury duty under the laws of Missouri. The statutes provided that persons actually exercising the functions of a practitioner of medicine were exempt. The majority of the Court after pointing out the rule of law that 'privileges and exceptions are not favored in the law,' held that the relator was not a 'practitioner of medicine and surgery in any of their departments.'"

Of course it does not follow that because dentistry is a branch or department of medicine or surgery, that a dentist is necessarily a 'surgeon' or 'physician' within the meaning of the statutes using those terms. It must depend in each case on the intent of the legislature.

In this chapter Dr. Noyes has other splendid points and the entire volume is filled with valuable material and of a kind which is of great importance to old and young practitioners.

A vast amount of legal botheration would be avoided if dentists better understood their own grounds. The subject of contracts as understood in professional appointments, is treated fully and well.

These items too are worthy of more study on our part:—malpractice, compensation, operating without actual consent, damages, obligations to patients, lialility for compensation and scores of other phases of dental professional services.

The book has XVIII Chapters and sells at $2.00. Order through THE AMERICAN DENTAL JOURNAL, and the volume will be promptly sent.

CLOSING THE FLASK SAFELY

DR. W. H. TRUEMAN

When closing a flask after packing, it is well to bear in mind the great force exerted by a seemingly slight pressure exerted at the end of the wrench used in turning the screws. The pressure applied to the wrench may be measured by ounces, or a few pounds, but multiplied by the mechanical combination of lever and screw, it becomes many pounds as exerted upon the flask, drawing the sections together. The strength of the plaster forming the mold is limited especially if water soaked, as it is when the flask is boiled to soften the enclosed rubber. If the strength of the plaster is overtaxed the model may be crushed or distorted or the teeth disarranged. Although the rubber becomes very plastic when sufficiently heated, and freely flows under slight pressure slowly applied, it moves sluggishly, and may offer sufficient resistance to distort the mold if forced too rapidly.

To heat the flask sufficiently, evenly, and without risk of overheating, heat it in the vulcanizer with a little water, and the cover laid in place, not screwed down, and give it plenty

of time to heat up through and through. It is then heated in an atmosphere of steam. The spring flask-closing presses that go into a vulcanizer are excellent arrangements; they automatically close the flask as the rubber softens, leaving very little to be done by the screws. A bench vise makes a good flask press; it may be closed slowly, and is quicker and more handy if the flask is to be opened to examine its contents during the closing process, the flask screws being used only after the flask is fully closed. To safely close a vulcanite flask use a little head work in combination with the hand work.

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Lysol, 1:2000; over 5 minutes.
Mercuric chlorid, 1:2500; one-half to 1 minute.
Oil of cinnamon, 1:400; over 8 minutes.
Oil of cloves, 1:550; over 11 minutes.
Oil of eucalpytus, 1:625; over 9 minutes.
Oil of peppermint, 1:600; over 11 minutes.
Oil of gaultheria, 1:350; over 12 minutes.
Carbolic acid, 1:00; over 5 minutes.
Potassium permanganate, 1:1400; over 15 minutes.
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Hydrogen dioxid sol., 2:100; over six minutes.
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—*La Odontologia, Madrid.*

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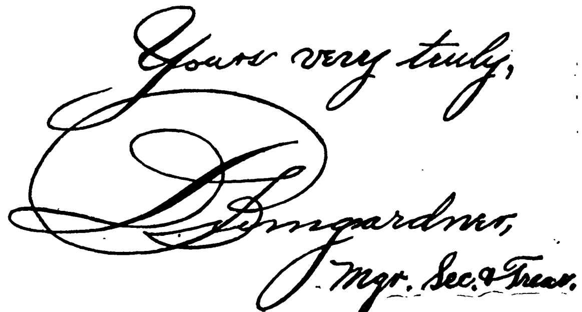

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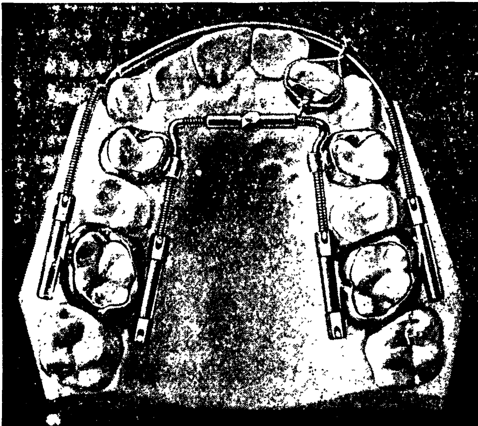

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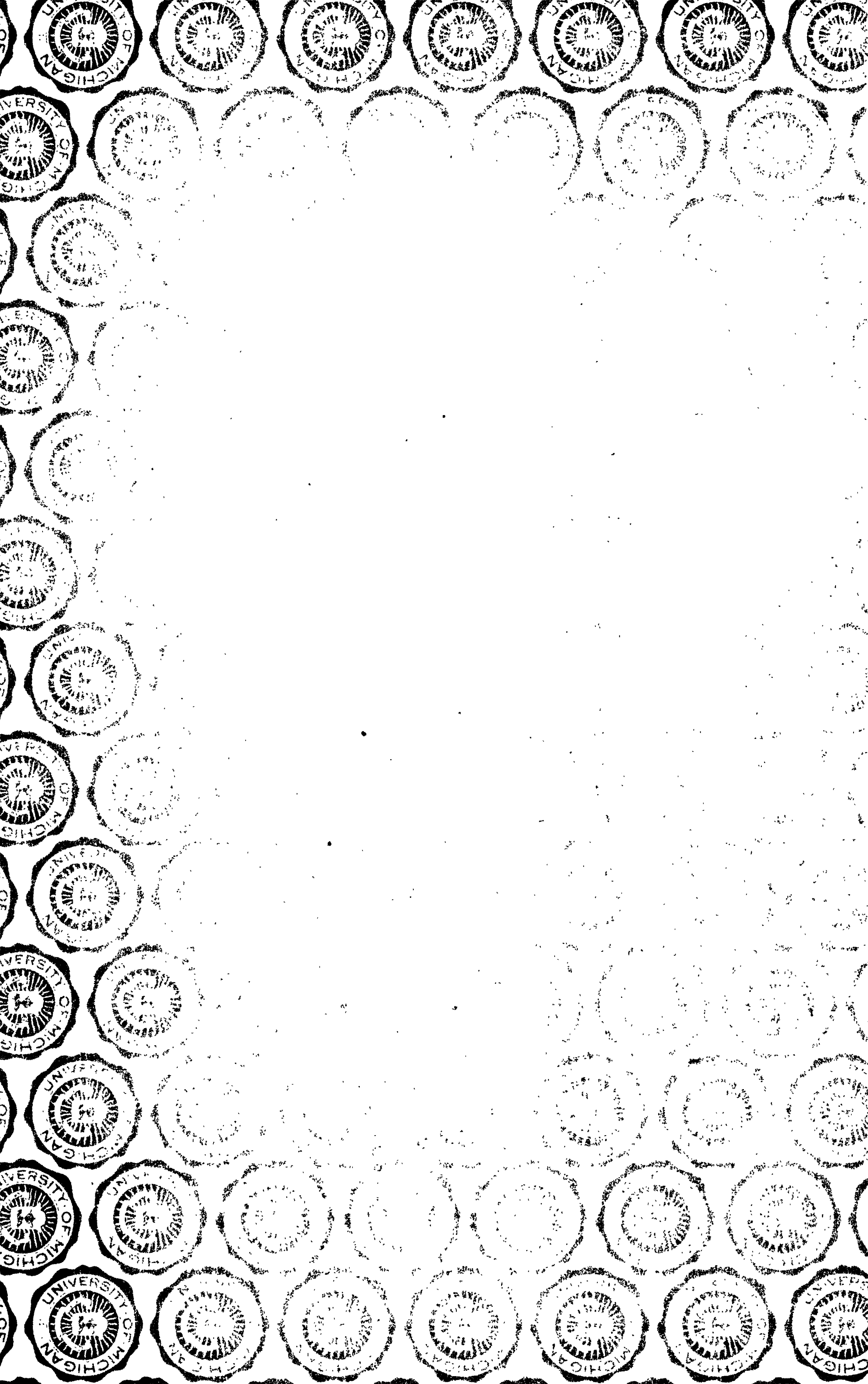
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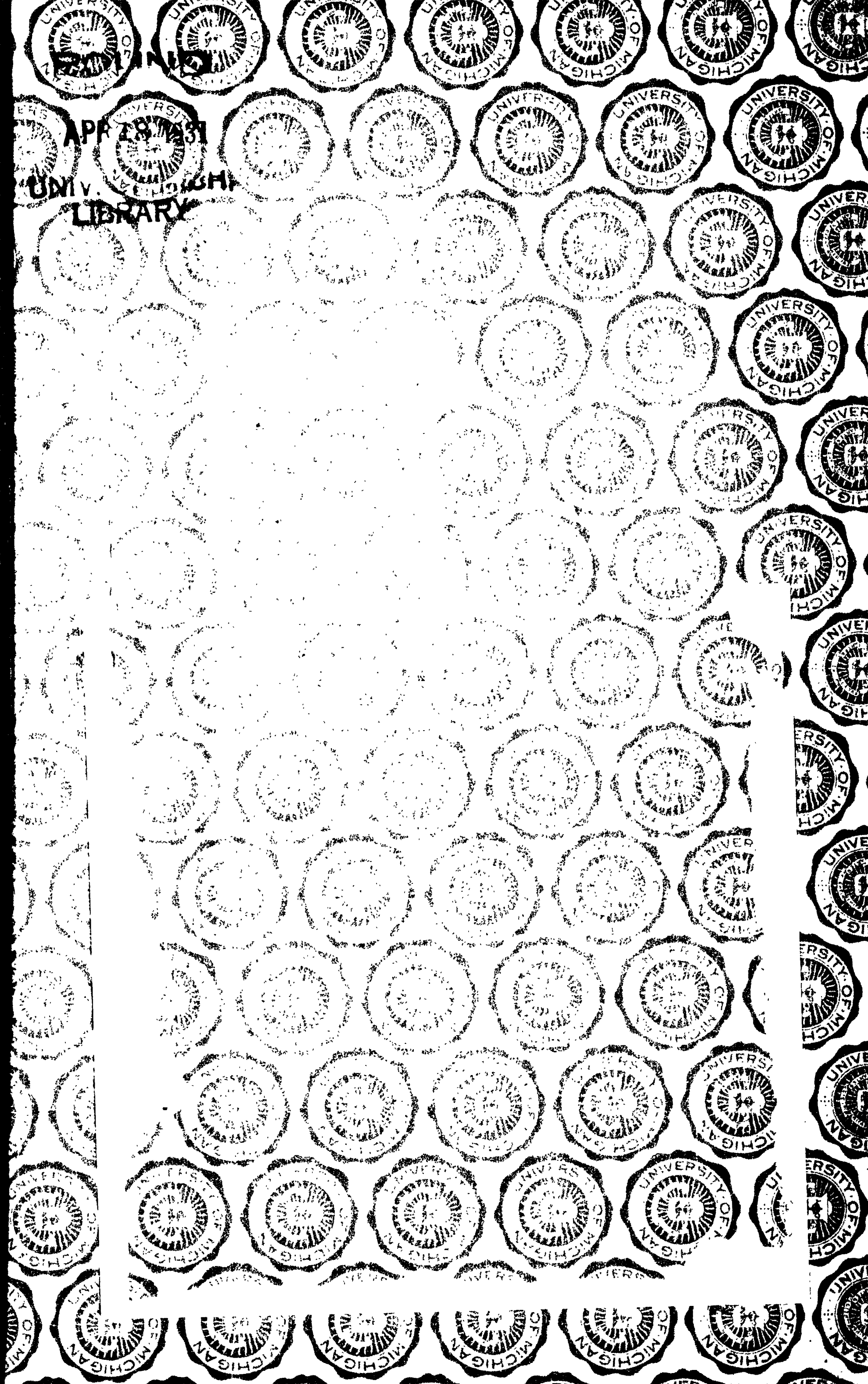
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